



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,986	03/01/2002	Gerard O'Driscoll	TD-166	6316
29106	7590	08/07/2006	EXAMINER	
GROOVER & HOLMES			CASCHERA, ANTONIO A	
BOX 802889				
DALLAS, TX 75380-2889			ART UNIT	PAPER NUMBER
			2628	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/086,986	O'DRISCOLL, GERARD	
	<b>Examiner</b>	<b>Art Unit</b>	
	Antonio A. Caschera	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 30 May 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-3 and 5-30 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3 and 5-30 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 22 April 2005 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1-3 and 5-12 and 22-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In reference to claims 1, 5, 22 and 28, the language of the claims raise questions as to whether the claims are directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Specifically, the method for generating(rendering) antialiased lines, as disclosed in claims 1, 5, 22 and 28, is the abstract idea, which could be implemented without the use of any type of machine. See MPEP 2106 IV (B)(1).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-9, 13-16, 19, 20, 22-25, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubota (U.S. Patent 5,305,432).

In reference to claims 1, 5, 13, 19, 22 and 28, Kubota discloses a system and method for depicting a line segment on an image display memory unit (see column 3, lines 63-66). Kubota discloses creating a line segment by receiving a start point and an end point of the line (see column 5, lines 26-28). Kubota then discloses evaluating the points to determine which one of eight different octants the line segment is included within (see column 5, lines 28-31, column 2, lines 24-51 and Figure 2). During the above determining of the octant, Kubota inherently discloses determining the orientation of the line or whether the line falls within the X or Y-major classes (see column 2, lines 43-51). Kubota then discloses a DDA (Digital Differential Analyzer) generating coordinate points, (X<sub>n</sub>, Y<sub>n</sub>), for the line using the determined orientation and more specifically, the octant, the line falls into (see column 6, lines 9-24, columns 6-7, lines 48-5 and column 2, lines 30-51). Kubota discloses comparing absolute differences in X and Y lengths of the line and based upon such a result, discloses specific sampling formulas or patterns to obtain each (X<sub>n</sub>, Y<sub>n</sub>) coordinate (columns 6-7, lines 48-5, column 7, lines 15-20 and column 2, lines 30-51). Note, since Kubota further discloses dealing with situations of fractional dot or pixel coordinates (see column 7, lines 20-46), the Office interprets Kubota to inherently perform subpixel sampling. In reference to claims 5, 19 and 28, the Office interprets Kubota to inherently calculate in which direction the line is most nearly parallel to and what values provide maximal resolution approximately normal to the orientation of the line when Kubota discloses the determining of the octant in which the line falls as either X or Y-major (see column 2, lines 43-51).

In reference to claims 2, 6, 14, 20, 23 and 29, Kubota discloses all of the claim limitations as applied to claims 1, 5, 13, 19, 22 and 28 respectively above in addition, Kubota then discloses evaluating the points to determine which one of eight different octants the line segment is included within (see column 5, lines 28-31, column 2, lines 24-51 and Figure 2). During the above determining of the octant, Kubota inherently discloses determining the orientation of the line or whether the line falls within the X or Y-major classes (see column 2, lines 43-51).

In reference to claims 3, 16 and 25, Kubota discloses all of the claim limitations as applied to claims 1, 13 and 22 respectively above. Since Kubota discloses specific sampling formulas for each octant (see column 2, lines 24-42), the Office interprets the sampling formulas having a one-to-one correspondence to the octants and therefore the X and Y-major line classes.

In reference to claims 7 and 8, Kubota discloses all of the claim limitations as applied to claims 1 and 5 respectively above in addition, Kubota discloses a processing unit and DDA unit performing the methods as disclosed above (see column 5, lines 25-34 and Figure 5) which the Office interprets, the combination of the units, functionally equivalent to Applicant's claimed graphics processor.

In reference to claims 9, 15 and 24, Kubota discloses all of the claim limitations as applied to claims 2, 14 and 23 respectively above in addition, Kubota explicitly discloses calculating the difference of X and Y lengths of the line, using starting and ending coordinates, and based upon the sign of the result, determining in which octant the line lies and therefore whether the line is classified as X or Y major (see columns 6-7, lines 50-5).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10-12, 17, 18, 21, 26, 27 and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota (U.S. Patent 5,305,432).

In reference to claims 10-12, 17, 18, 21, 26, 27 and 30, Kubota discloses all of the claim limitations as applied to claims 5, 13, 19, 22 and 28 above. Although Kubota discloses utilizing nine sample points to create the line (see column 7, lines 20-23), Kubota does not explicitly disclose using only four sample points and having an equal amount of sample points in each sample pattern. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement the line creating methods of Kubota using only four sample points as these sample points only provide a degree of “accuracy” in appearance of the line and would not effect the functionality of the invention as a whole. Applicant has not disclosed that that specifically providing four sample points and having an equal number throughout each sample pattern, provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant’s invention to perform equally well with the line creating methods of Kubota because level of detail of the line is a matter which is selected by the inventor and best suits the application at hand as trade-offs between level of detail and speed could be compromised. Even further, such claim limitations are seen as providing no immediate criticality to the application at hand since level of detail, in this case, is a matter which is selected by the inventor and best suits the

Art Unit: 2628

application at hand. Proof of such a statement can be seen from within the Applicant's specification wherein an alternate embodiment is disclosed whereby, "...more or fewer sampling points can be used," (see page 45, lines 3-4 of Applicant's specification). Therefore, it would have been obvious to one of ordinary skill in this art to modify Kubota to obtain the invention as specified in claims 10-12, 17, 18, 21, 26, 27 and 30.

***Response to Arguments***

4. In view of the appeal brief filed on 5/30/2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth above.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

5. Applicant's arguments, see pages 10-19 of the Appeal Brief, filed 05/30/06, with respect to the rejection(s) of claim(s) 1-3 and 5-30 under 35 USC 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kubota.

Art Unit: 2628

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (571) 272-7781. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung, can be reached at (571) 272-7794.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

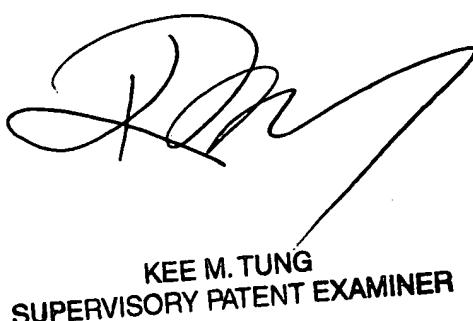
**or faxed to:**

**571-273-8300 (Central Fax)**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (571) 272-2600.

aac  
*AMC*  
8/2/06

PATENT EXAMINER



KEE M. TUNG  
SUPERVISORY PATENT EXAMINER